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EXAMINER

BULLOCK JR, LEWIS ALEXANDER

ART UNIT PAPER NUMBER

2195

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/847,534	Applicant(s) NOVIK ET AL.	
	Examiner Lewis A. Bullock, Jr.	Art Unit 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on appeal brief filed 12/23/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/1/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the appeal brief filed on 12/23/04, PROSECUTION IS HEREBY REOPENED. A new ground of rejection detailing better art is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9, 11-18, 20-26 and 40-43 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The examiner refers to M.P.E.P. 2100 in showing that the cited claims details of a method for correlating a plurality of events in determining whether to generate a specific event is all software instructions that are not tangibly executed on a computer system or embedded as

instructions on a computer readable medium that when executed on a computer would enable to computer to perform the steps and therefore non-statutory.

Claim Objections

3. Claim 16 is objected to because of the following informalities: The claim recites "A method as recited in claim 0". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-8, 10-19 and 28-43 are rejected under 35 U.S.C. 102(e) as being anticipated by FERIDUN (U.S. Patent 6,336,139).

As to claims 1 and 10, FERIDUN teaches a method embodied in a computer-readable medium that is executable by a processor comprising instructions for: receiving a plurality of events (events from event streams); applying the plurality of events to a correlation function (correlation rule), wherein the correlation function (correlation rule) is implemented as a state machine (state machines) and is configured to correlate the plurality of events (events); and generating a specific event (action /

control signal / another event) if the correlation function is satisfied by the plurality of events (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47).

As to claims 11 and 19, FERIDUN teaches a method embodied in a computer-readable medium that is executable by a processor comprising instructions for: receiving a plurality of events (events from one event stream); receiving a plurality of data elements (information from a subsequent event stream / data stream); identifying a plurality of correlation functions (correlators of the plurality of agents) configured to correlate the plurality of events and the plurality of data elements (via the registered interest in events by agents); applying the plurality of events and the plurality of data elements to the plurality of correlation functions (via sending events to agents and correlating the streams); and generating a specific event if at least one of the plurality of correlation functions is satisfied (generation of an event issued to another node) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col. 2, lines 38-62; col. 8, lines 15-28).

As to claim 28, FERIDUN teaches an apparatus comprising: a plurality of event consumers (registered agents); and an event correlator (correlation rule / correlator) coupled to the plurality of event consumers (col. 9, lines 1-9; fig. 6), the event correlator to receive events from at least one event source (events received from one event stream) and to receive data elements (information received from another event stream /

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data stream) from at least one data source, the event correlator further to receive at least one correlation function (correlation rule) configured to correlate events and data elements and to apply the received events and the received data elements to the correlation function (via sending events to agents and correlating the streams), wherein the event correlator generates a specific event if the received events and the received data satisfy the correlation function (generation of an event issued to another node) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col. 2, lines 38-62; col. 8, lines 15-28).

As to claim 35, FERIDUN teaches one or more computer readable media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to: receive a plurality of events (events from event streams); identify a plurality of correlation functions (correlation rules) configured to correlate the plurality of events; apply the plurality of events to the plurality of correlation functions to determine whether any of the plurality of correlation functions are satisfied by the plurality of events; and generate a specific event (action / control signal / another event) if one of the plurality of correlation functions is satisfied by the plurality of events (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47).

As to claim 40, FERIDUN teaches a method comprising: receiving events from event providers (events from event streams); correlating the events using a function

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(correlation rule); and if the events are correlated, generating an additional event (action / control signal / another event); and sending the additional event to an event consumer (another node) (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-54).

As to claim 2, FERIDUN teaches the correlation function is a class object (Java program) (col. 6, lines 56-64; col. 7, lines 7-11; col. 7, lines 15-20).

As to claims 3 and 4, FERIDUN teaches receiving a data element (s) (information from a subsequent event stream / data stream); and applying the data element (s) and at least one of the plurality of events to the correlation function (via sending events to agents and correlating the streams) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col. 2, lines 38-62; col. 8, lines 15-28).

As to claim 5, FERIDUN teaches communicating the specific event (action / control signal / another event) to at least one event consumer (registered agent) that subscribed to the specific event (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47).

As to claim 6, FERIDUN teaches continuing to receive additional events (events) and apply the additional events (events) to the correlation function (correlation rules) if

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the correlation function is not satisfied by the plurality of events (col. 8, lines 15-34; col. 8, lines 53-61).

As to claim 7, FERIDUN teaches resetting the correlation function after generating a specific event (via reset rules / after handling of event, correlation rule de-activates itself) (col. 9, lines 36-37; col. 9, lines 54-57; col. 12, lines 32-45).

As to claim 8, FERIDUN teaches creating an instance of a particular state machine (via breeder routine / non-mobile event processing host instantiating agents that have correlation rules) (col. 10, lines 47-58); and defining transitions for the particular state machine by subscribing to at least one event (via registering interests in events) (col. 8, lines 15-28).

As to claim 12, FERIDUN teaches the plurality of correlation functions is implemented as a state machine (col. 9, lines 15-22).

As to claim 13, refer to claim 2 for rejection.

As to claim 14, refer to claim 5 for rejection.

As to claims 15 and 16, refer to claim 3 and 4 for rejection. However, claim 16 further details receiving additional correlation functions. FERIDUN teaches the

registering of agents via the registering of correlation functions (col. 8, lines 23-27) and the dynamic generation of agents (col. 9, lines 54-57). It is inherent within the teachings of FERIDUN that when agents are generated they register correlation functions in order to register interest in particular events, thereby teaching the step of receiving additional correlation functions.

As to claim 17, FERIDUN teaches the registering of correlation functions (col. 8, lines 23-27) and generating a specific event if a correlation function is satisfied (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47). It is inherent within the teachings of FERIDUN that the additional registered correlation functions of the generated agent also generate a specific event when satisfied.

As to claim 18, FERIDUN teaches the specific event generated is dependent on which correlation function is satisfied (depending on the rule requirements in order for an event to be satisfied, i.e. if a specific number of the same type of event has occurred, a threshold rule is triggered, whether an event matches a search criteria, a matching rule is triggered) (col. 9, lines 15-40).

As to claims 29-31, FERIDUN teaches the event correlator communicates the specific event (event) to event consumers that have requested to receive the specific

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event (agents registered to receive the event) by using a filter (intermediate location / monitor) of the consumers (col. 8, lines 15-28; col. 8, lines 53-61; col. 8, lines 62-67).

As to claims 32 and 33, FERIDUN teaches the event correlator includes at least one state machine (correlation rules) to implement the correlation function, wherein the event correlator identifies a current state of each state machine (whether rule is active or de-active) (col. 11, lines 11-23; col. 11, line 61 – col. 12, line 9).

As to claim 34, FERIDUN teaches continuing to receive additional events (events) and additional data elements (other events / data from data stream) and apply the additional events and data elements (events / data from data stream) to the correlation function (correlation rules) (col. 8, lines 15-34; col. 8, lines 53-61; col. 12, lines 62-67).

As to claims 36 and 37, FERIDUN teaches the plurality of correlation functions are implemented as state machines (col. 9, lines 15-22) wherein the state machine is a class object (Java program) (col. 6, lines 56-64; col. 7, lines 7-11; col. 7, lines 15-20).

As to claim 38, FERIDUN teaches identify a current state of the state machine (whether rule is active or de-active) (col. 11, lines 11-23; col. 11, line 61 – col. 12, line 9).

As to claim 39, FERIDUN teaches the state machines (correlators having correlation rules) to correlate at least two events (events / event streams) (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47); creating an instance of a particular state machine (via breeder routine / non-mobile event processing host instantiating agents that have correlation rules) (col. 10, lines 47-58); and defining transitions for the particular state machine by subscribing to at least one event (via registering interests in events) (col. 8, lines 15-28).

As to claim 41, FERIDUN teaches receiving data (data stream / other event stream) from the event providers (event suppliers); correlating the events (initial event stream) and the data (data stream / other event stream) with the function (correlation rule); and if at least one event and the data are correlated, generating the additional event (action / control signal / another event) (col. 12, lines 32-54; col. 12, lines 62-67; col. 9, lines 41-57).

As to claims 42 and 43, FERIDUN teaches the additional event is sent to the event consumer through a filter (intermediate location / monitor) associated with the event logging consumer (subscribed consumer) (col. 8, lines 15-28; col. 8, lines 53-61; col. 8, lines 62-67; col. 9, lines 54-57; col. 12, lines 48-54).

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 9 and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over FERIDUM (U.S. Patent 6,336,139) in view of "Java Developer's Guide" by JAWORSKI.

As to claims 20 and 27, FERIDUN teaches a method embodied in a computer-readable medium that is executable by a processor comprising instructions for: having the state machines (correlators having correlation rules) to correlate at least two events (events / event streams) (col. 2, lines 43-62; col. 3, lines 9-20; col. 9, lines 15-22; col. 9, lines 41-57; col. 10, lines 5-19; col. 12, lines 32-47); creating an instance of a particular state machine (via breeder routine / non-mobile event processing host instantiating agents that have correlation rules) (col. 10, lines 47-58); and defining transitions for the particular state machine by subscribing to at least one event (via registering interests in events) (col. 8, lines 15-28). FERIDUN also teaches that the agents / state machines are implemented in Java (col. 6, lines 56-60). However, FERIDUN does not teach the steps of identifying a schema for creating state machines and applying an update consumer to the particular state machine to update the state of the particular state machine. Schema as defined in the dictionary and used in the specification, page 17, line 17 – page 18, line 5 refers to the structured framework of the state machine.

JAWARSKI teaches the writing and editing of Java programs by a programmer (update consumer) (via writing and editing of Java classes) (chapter 3, pgs. 26-42). It would be obvious based on the combination that since agents / state machines are implemented and instantiated from the Java programming language that they are Java programs created, written, and edited, i.e. updated, by a programmer. Therefore, it would be obvious to combine the teachings of FERIDUN with the teachings of JAWARSKI in order to facilitate the development of Java software.

As to claims 21 and 22, FERIDUN teaches the particular state machine (correlation rule) remains active long enough for either it correlation criteria to be met, i.e. a final state, or a specified time to occur (col. 11, lines 46-48) wherein the rule deactivates (deletes) itself after the criteria has been met or a specified timeout has occurred (col. 12, lines 32-45)

As to claims 23 and 24, FERIDUN teaches the particular state machine correlates at least one event (events from one event stream) and at least one data element (information from a subsequent event stream / data stream) (col. 9, lines 41-57; col. 12, lines 62-67; col. 10, lines 5-19; col. 6, lines 21-60; col. 2, lines 38-62; col. 8, lines 15-28).

As to claim 25, FERIDUN teaches determining a current state of the particular state machine (whether the state machine is satisfied / whether the correlation rule is either active or de-active) (col. 11, lines 11-23; col. 11, line 61 – col. 12, line 9).

As to claim 26, FERIDUN teaches the correlation function is an instance of a class object (Java program) (col. 6, lines 56-64; col. 7, lines 7-11; col. 7, lines 15-20).

As to claim 9, FERIDUN teaches that the agents / state machines are implemented in Java (col. 6, lines 56-60). However, FERIDUN does not teach the steps of applying an update consumer to the particular state machine to update the state of the particular state machine.

JAWARSKI teaches the writing and editing of Java programs by a programmer (update consumer) (via writing and editing of Java classes) (chapter 3, pgs. 26-42). It would be obvious based on the combination that since agents / state machines are implemented and instantiated from the Java programming language that they are Java programs created, written, and edited, i.e. updated, by a programmer. Therefore, it would be obvious to combine the teachings of FERIDUN with the teachings of JAWARSKI in order to facilitate the development of Java software.

Important Observation

Claim 20, details the use of an update consumer. Parts of the specification, in particular pg. 19, lines 3-15 detail that an update consumer is a class object. However,

pg. 30, lines 6-10 of the specification details that the description of the structural feature and/or methodological acts are not limited to the specific features or acts described, rather these specific features and acts are exemplary forms of implementing the invention. Therefore, the update consumer can be interpreted to be any means for updating the state of the state machine, i.e. a programmer modifying the class of a Java program that represents the state machine. If Applicant, wants the claim interpreted as a class object as defined in the specification, Applicant must amend the claim to indicate such.

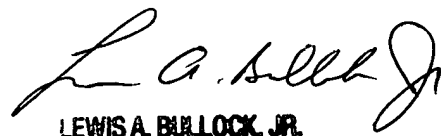
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER

March 31, 2005